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Effects of Self-Esteem and Mortality Salience on Attitudes toward Canadian Security

Exploring the Significance of Implicit-Explicit and Personal-Collective Distinctions

Emily-Ana Filardo

David R. Mandel

Oshin Vartanian

Canada

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Emily-Ana Filardo

David R. Mandel

Oshin Vartanian

Defence R&D Canada – Toronto

Principal Author

Original signed by Emily-Ana Filardo

Emily-Ana Filardo

Visiting Fellow, Organizational Behaviour Group

Approved by

Original signed by Keith Stewart

Keith Stewart

Head, Socio-Cognitive Section

Approved for release by

Original signed by Dr. Joseph V. Baranski

Dr. Joseph V. Baranski

Chair, Knowledge and Information Management Committee

Chief Scientist

15dz01, Predictive Modeling of Adversarial Intent and Experimental and Case Analyses of Social Influence Process

Abstract

Terror Management Theory (TMT) proposes that, due to the unique ability of humans to understand that life is finite, we have developed buffers against the anxiety of such a potentially devastating awareness. These buffers include an adherence to a meaningful cultural worldview and a secure sense of self-esteem. To date, TMT research has focused almost exclusively on personal mortality salience (MS); however, the present study aimed to understand the implications of threats made to the source of one's anxiety buffer by creating a collective MS threat. Furthermore, the current study attempted to assess the impact of MS on personal beliefs about one's own and others' commitment to Canada, as well as domestic and foreign policies in situations where their Canadian identity was either primed or not. Civilian participants ($N = 123$) completed measures of implicit and explicit personal and collective self-esteem, were exposed to one of three MS conditions (control, personal MS, or collective MS) and one of two prime conditions (Canadian flag present or absent). While the Canadian identity prime had no impact on commitment to Canada or attitudes towards Canadian security, personal MS interacted with both implicit and explicit personal self-esteem in its impact on personal commitment towards Canada and beliefs about the others' obligations towards Canada. The effects of the collective MS condition combined with implicit and explicit collective self-esteem also influenced personal commitment and beliefs about others' obligations, as well as support for extreme domestic policies. The implications of these findings for extreme beliefs in support of a threatened cultural worldview are discussed.

Résumé

Selon la théorie de la gestion de la terreur, c'est parce que les êtres humains sont les seuls à posséder la capacité de comprendre la finitude de la vie qu'ils ont développé des instruments de protection contre l'anxiété, parfois dévastatrice, que suscite une telle conscience. Ces instruments de protection sont entre autres l'adhésion à une vision du monde culturellement significative et un sentiment de sécurité basé sur l'estime de soi. À ce jour, la recherche inspirée de cette théorie a été concentrée presque exclusivement sur la prégnance de la mort personnelle (PM); toutefois, l'étude dont il est question dans le présent document visait à comprendre les conséquences des menaces qui pèsent sur l'origine des instruments de protection personnelle contre l'anxiété en créant une menace à la prégnance de la mort collective. Cette étude tentait également d'évaluer l'incidence de la prégnance de la mort sur les convictions personnelles concernant son propre engagement et celui des autres envers le Canada et les politiques nationales et étrangères dans les situations où l'identité canadienne est mise ou non à l'avant-plan. Les 123 civils participants dont on avait préalablement évalué le degré d'estime de soi personnelle et collective, tant implicite qu'explicite, ont été exposés à l'un des trois états de PM (le contrôle, la PM personnelle ou la PM collective) et à l'une des deux situations suivantes : la présence ou l'absence du drapeau canadien. Le rappel de l'identité canadienne n'avait aucune incidence sur l'engagement envers le Canada ou sur les attitudes à l'égard de la sécurité canadienne, mais la PM personnelle interagissait avec l'estime de soi personnelle, tant implicite qu'explicite, pour influencer l'engagement personnel envers le Canada et les opinions au sujet des obligations des autres envers le Canada. Les effets d'un état de PM collective, conjugués avec l'estime de soi collective, tant implicite qu'explicite,

avaient aussi des répercussions sur l'engagement personnel et sur les opinions concernant les obligations des autres, de même que sur la disposition à appuyer des politiques nationales extrêmes. Les implications de ces constatations, pour ce qui est des croyances extrêmes à l'appui d'une vision culturelle du monde menacée, font l'objet d'une analyse.

Executive summary

Effects of Self-Esteem and Mortality Salience on Attitudes Toward Canadian Security: Exploring the Significance of Implicit-Explicit and Personal-Collective Distinctions

Emily-Ana Filardo; David R. Mandel; Oshin Vartanian; DRDC Toronto TR 2010-042; Defence R&D Canada – Toronto; April 2011.

Introduction or background: This technical report presents the results of an experiment that explored the relationship between self-esteem and mortality salience (MS) with respect to attitudes espoused by Canadians on matters of commitment to one's country, domestic security, and involvement in international affairs. This could aid the Canadian Forces (CF) in developing a better and more comprehensive understanding of how mortality salience is likely to influence the beliefs, attitudes, and worldviews of allied and adversarial groups.

Due to the nature of their work, the CF are continually immersed in situations involving human mortality and physical vulnerability, both in instances of war as well as reconstruction. Terror Management Theory (TMT) proposes that people experience feelings of terror and anxiety upon reflecting on their own mortality and physical fragility and buffer against these feelings of existential threat by investing more strongly in their worldviews and beliefs, and in turn developing a strong sense of self-esteem. By believing strongly in a worldview, they are often "offered" immortality by allowing members to become involved in a group or cause bigger than themselves, which will live on even after their physical death. Self-esteem, according to TMT researchers is a potential measuring stick for how closely one is living up to the standards set by their worldview, thus creating a buffer against the anxieties inherent in thoughts of mortality.

Past research has shown that social group members are continually looking to validate their beliefs and this validation often leads to defensiveness. However, previous research has focused exclusively on personal mortality as a means of understanding the implications of MS on personal attitudes. The current study aimed to explore the impact of collective mortality on beliefs and attitudes.

Additionally, we were interested in examining the effects of collective-identity primes on worldview defence. Prior work has shown that participants displayed less out-group derogation when they were primed with their collective identity (the flag of the United States (US)). The US flag primed participants with egalitarianism and thus caused them to be less discriminatory and engage in less defensive behaviours. Furthermore, other researchers have found that under conditions of MS, participants who had first been reminded of egalitarian values were less defensive. However, no research has investigated the impact of threats to the source of the prime. Specifically, would collective primes, by strengthening the accessibility of the collective identity, trigger hostile defensiveness in response to threats to this identity and thus a moving away from the beliefs intrinsic in the prime itself?

It was hypothesized that threats to both personal and collective mortality would lead to defensive reactions (i.e., more extreme beliefs with regards to commitment to Canada, national security, and

foreign policies). This was expected to be particularly true of participants with insecure self-esteem, which signalled a weak anxiety buffer, and those who were highly invested in their cultural membership as evidenced by high collective self-esteem.

Results: Priming national identity did not impact the nationalistic attitudes of the participants. Personal MS interacted with personal self-esteem to predict personal commitment to Canada and, to a lesser extent, beliefs about other Canadians' obligations towards Canada. Participants with high implicit self-esteem were less likely to profess commitment to Canada under personal MS threat situations when their explicit self-esteem was low and more likely to profess commitment when their explicit self-esteem was high. Participants who were reminded of their personal mortality and who exhibited high implicit self-esteem were also more likely than their control condition counterparts to support extreme domestic policies in the name of domestic security.

Collective MS interacted separately with implicit and explicit collective self-esteem to predict beliefs about personal commitment to Canada. Within the collective mortality salience condition, there was a negative correlation between implicit collective self-esteem and commitment, and a positive correlation between explicit collective self-esteem and commitment. While the results with regards to implicit collective self-esteem were mirrored when looking at beliefs about others' obligations towards Canada, the same was not true for explicit collective self-esteem. Finally, among participants who were asked to consider a collective mortality, there was a significant positive correlation between explicit collective self-esteem and their willingness to accept extreme domestic policies.

Significance: The results of this study indicate that threats to collective mortality, as well as personal mortality, might have implications for extreme nationalistic attitudes. While in this study many participants found it difficult to imagine a situation where the Canadian culture would be eliminated, there are cultures across the world that feel they are being threatened and their extreme reactions might be understood from a TMT perspective. To preserve their culture, it appears that people would be willing to sacrifice themselves, expect others to sacrifice themselves, and support extreme security measures that may even be contradictory to the cultural values they are trying to preserve.

Future plans: A follow-up study that describes a situation of cultural threat that makes cultural mortality more salient to participants may help researchers to better understand the depth of the behavioural implications. Further, the nationalism prime did not appear to have any effect in this study; however, this may have been a result of the prime of the location itself because the study was undertaken in a government facility. Choosing a more neutral location in which to undertake the study may allow for a clearer understanding of the effect of priming national identity on MS effects.

Sommaire

Les effets de l'estime de soi et de la prégnance de la mort sur les attitudes à l'égard de la sécurité canadienne : Analyse de l'importance des distinctions entre implicite et explicite d'une part et entre personnel et collectif d'autre part

Emily-Ana Filardo; David R. Mandel; Oshin Vartanian; DRDC Toronto TR 2010-042; R & D pour la défense Canada – Toronto; Avril 2011.

Introduction ou contexte: Le présent rapport technique expose les résultats d'une expérience consistant à analyser la relation entre l'estime de soi et la prégnance de la mort (PM), et son influence sur les attitudes des Canadiens à l'endroit de questions telles que l'engagement vis-à-vis son pays, la sécurité nationale et la participation aux affaires internationales. Il pourrait aider les Forces canadiennes à mieux comprendre comment la prégnance de la mort influe généralement sur les croyances, les attitudes et les visions du monde des groupes alliés et des groupes ennemis.

En raison de la nature de leur travail, les Forces canadiennes sont continuellement plongées dans des situations dont la mort et la vulnérabilité physique des être humains font intrinsèquement partie, tant dans le cadre des missions de combat que des missions de reconstruction. Selon la théorie de la gestion de la terreur (TGT), les humains éprouvent des sentiments de terreur et d'anxiété lorsqu'ils réfléchissent à leur propre mort et à leur fragilité physique; ils se protègent contre la menace existentielle qu'ils ressentent en investissant davantage dans leurs visions du monde et dans leurs croyances, puis en développant leur estime de soi. En adhérant fermement à une vision précise du monde, ils se voient souvent « offrir » l'immortalité dans la mesure où ils deviennent membres d'une organisation ou épousent une cause, toutes les deux plus grandes qu'eux-mêmes et qui survivront à leur propre mort physique. Selon certains chercheurs, adeptes de la théorie de la gestion de la terreur, l'estime de soi permettrait d'évaluer dans quelle mesure une personne respecte les normes découlant de sa vision du monde, se protégeant ainsi contre l'anxiété inhérente aux pensées de la mort.

Des chercheurs ont déjà observé que les membres d'un groupe social cherchent constamment à valider leurs croyances et que cette validation conduit souvent à une attitude défensive. Toutefois, les recherches antérieures ont porté exclusivement sur la mortalité personnelle comme un moyen de comprendre les implications de la PM sur les attitudes personnelles. L'étude dont il est question dans le présent document visait à analyser l'incidence de la mort collective sur les croyances et les attitudes.

Nous étions également intéressés à examiner les rappels ou les évocations de l'identité collective sur la détermination à défendre une vision du monde. Des travaux antérieurs ont révélé que les participants étaient moins portés à déroger aux valeurs du groupe en présence d'un rappel de leur identité collective (le drapeau américain) (Butz, Plant et Doerr, 2007). Aux yeux des participants, le drapeau américain était un symbole de l'égalitarisme et les orientait vers des attitudes moins discriminatoires et des comportements moins défensifs. En outre, certains chercheurs ont constaté que dans les états de prégnance de la mort, les participants auxquels on avait tout d'abord rappelé les valeurs égalitaires étaient moins sur la défensive. Cependant, aucune étude n'a encore analysé

les effets de la fragilisation de l'origine du rappel. Par exemple, se pourrait-il que les bases communes, en renforçant l'accessibilité de l'identité collective, déclenchent des attitudes défensives hostiles devant des menaces à cette identité et, par conséquent, un éloignement des croyances intrinsèques à l'évocation elle-même?

Il a été posé comme hypothèse que la mort personnelle et la mort collective suscitent toutes les deux des réactions défensives (c.-à-d. des opinions plus extrêmes au sujet de l'engagement du Canada, de la sécurité nationale et des politiques étrangères). Cette hypothèse était censée se vérifier surtout chez les participants ayant une faible estime de soi, ce qui se manifeste par des instruments de protection peu efficaces contre l'anxiété, ainsi que chez les participants très fiers de leur appartenance culturelle, comme en témoigne une forte estime de soi collective.

Résultats: Le rappel de l'identité nationale n'a pas d'effet sur les attitudes nationalistes de participants. La PM personnelle interagit avec l'estime de soi individuelle pour prédire le niveau d'engagement personnel envers le Canada et, dans une moindre mesure, les opinions sur les autres obligations des Canadiens envers le Canada. Les participants ayant une forte estime de soi implicite sont moins enclins à exprimer ouvertement leur engagement envers le Canada lorsque confrontés à des états de prégnance de la mort personnelle si leur estime de soi explicite est faible; ils sont plus portés à clamer leur engagement lorsque leur estime de soi explicite est forte. Les participants qui s'étaient vu rappeler le caractère inéluctable de la mort et qui affichaient une forte estime de soi implicite étaient proportionnellement plus nombreux que leurs homologues du groupe témoin à soutenir des politiques nationales extrêmes au nom de la sécurité nationale.

La PM collective interagit différemment avec l'estime de soi collective, tant implicite qu'explicite, pour prédire les opinions quant à l'engagement personnel envers le Canada. Dans un état de prégnance de la mort collective, une corrélation négative est révélée entre l'estime de soi collective implicite et l'engagement, et une corrélation positive s'établit entre l'estime de soi collective explicite et l'engagement. Les résultats concernant l'estime de soi collective implicite sont le reflet des opinions relatives aux « autres » obligations envers le Canada, mais ce constat ne vaut pas pour l'estime de soi collective explicite. Enfin, chez les participants invités à envisager une mort collective, aucune corrélation positive importante n'est observée entre l'estime de soi collective explicite et leur disposition à accepter des politiques nationales extrêmes.

Importance: Les résultats de cette étude indiquent que les menaces de mort collective et de mort personnelle peuvent avoir une incidence sur les attitudes nationalistes extrêmes. Dans le cadre de la présente étude, de nombreux participants ont trouvé difficile d'imaginer une situation où la culture canadienne pourrait disparaître, mais il existe dans le monde des cultures où le fait de se sentir menacé et de réagir de façon extrême à cette menace pourrait être expliqué par la théorie de la gestion de la terreur. Pour sauvegarder leur culture, certains semblent prêts à se sacrifier eux-mêmes, s'attendent à ce que d'autres soient prêts à se sacrifier aussi et sont favorables à des mesures de sécurité extrêmes qui peuvent même être en contradiction avec les valeurs culturelles qu'ils tentent de préserver.

Perspectives: Une étude complémentaire qui décrirait une situation de menace à la culture, ayant pour effet d'augmenter la prégnance de la mort culturelle chez les participants, pourrait aider les chercheurs à mieux comprendre la profondeur des implications comportementales. De plus, l'évocation ou le rappel du nationalisme ne semble avoir eu aucun effet dans la présente étude,

mais cela pourrait s'expliquer par le caractère « évocateur » de l'endroit lui-même, puisque l'étude a été réalisée dans un édifice gouvernemental. Le fait de choisir un endroit plus neutre pour y réaliser l'étude permettrait peut-être de mieux comprendre l'incidence du rappel de l'identité nationale sur les conséquences de la PM.

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1   Introduction

Ask not what your country can do for you; ask what you can do for your country.
                                    -John F. Kennedy
                                     Inaugural speech, January 20, 1961

If a man hasn't discovered something that he will die for, he isn't fit to live.
                                    -Martin Luther King, Jr.
                                    Speech in Detroit, June 23, 1963

I regret I have but one life to give for my country.
                                    -Nathan Hale
                                    Speech before being hanged, September 22, 1776

As far as we know, humans are the only species that are aware that they will one day die and that can reflect on this knowledge, i.e., on how or when it might happen, on the pain and suffering that might precede it, and on the consequences it would have on one's loved ones, and perhaps also, on one's enemies. Given our stark awareness of our impending demise, how do we continue to function? Terror Management Theory (TMT) proposes that due to our unique ability to understand our own mortality, people experience feelings of terror and anxiety that are reflected in their everyday actions (Greenberg et al., 1986; Rosenblatt et al., 1989; Solomon et al., 1991). In order to buffer these feelings of existential threat, TMT posits that people invest in their worldviews and beliefs. By believing strongly in a worldview, they may come to experience a sense of immortality, either symbolic or literal. For example, religions can provide a sense of literal immortality through faith in an afterlife, whereas many other worldviews provide individuals with ideals that live on through their actions. In many cases, the immortality of the ideals outweighs the value of one's own life. Thus, people may be willing to "die for what they believe in."

Because worldviews, among their other benefits, offer such a valuable commodity, members seek to validate their beliefs and this validation often leads to defensiveness of these beliefs. Past TMT research has shown that participants are more defensive of their worldviews after being reminded of their own personal mortality. A meta-analysis of two decades of TMT research has shown that mortality salience (MS) has a robust impact on a wide array of attitudinal and behavioural variables (Burke et al., 2010). This includes derogating others' beliefs, more strongly supporting one's own worldviews, and recommending harsher punishments for social transgressors (Greenberg et al., 1986; Greenberg et al., 1997; Solomon et al., 1991; Rosenblatt et al., 1989). According to TMT, the existence of other beliefs and the actions of social transgressors call into question the validity of one's own worldview, which may serve as one's shield against the terror of death.

TMT also posits that self-esteem is a reflection of the extent of one's participation in, and acceptance of, a meaningful cultural worldview. High self-esteem results from a stronger internalization of this cultural worldview. Knowing that one is part of a cultural worldview that will persist long after one's own death creates a strong sense of symbolic immortality, thus creating a buffer against anxiety brought about by reminders of death. Low self-esteem, on the other hand, is a reflection of a failure to meet cultural standards, thus resulting in a weak anxiety

buffer. Dechesne et al. (2003) found that after a MS manipulation, participants were more likely to believe in the accuracy of a positive personality profile, thus artificially boosting their self-esteem, than were participants in a control condition. Harmon-Jones et al. (1997) also found that artificially boosting self-esteem by providing positive feedback after an MS manipulation decreased death thought accessibility as compared to a control group who received neutral feedback.

1.1 Beyond Simple Self-Esteem

1.1.1 The Role of Implicit Self-Esteem

As a buffer, high self-esteem should reduce defensive reactions to MS. However, research examining this hypothesis has been inconsistent. Although some studies support the TMT hypothesis of self-esteem, (e.g., Gailliot et al., 2007; Greenberg et al., 1993; Harmon-Jones et al., 1997), others have reported contradictory findings (e.g., Baldwin & Wesley, 1996; McGregor et al., 2007).

One explanation for these contradictory findings comes from theories of secure and defensive self-esteem (Jordan et al., 2003). According to research investigating both explicit self-esteem (i.e., conscious reflections on the self) and implicit self-esteem (i.e., evaluations of the self inaccessible to conscious awareness), defensive reactions to self-esteem threats are most likely amongst individuals with insecure or unstable self-esteem, that is, people with high explicit, but low implicit self-esteem. For example, Jordan et al. (2005) found that after participants were given negative performance feedback, participants with high explicit, but low implicit self-esteem acted in a more discriminatory manner towards a Native American student than participants with high explicit and high implicit self-esteem. McGregor and Marigold (2003) also found that participants with high explicit but low implicit self-esteem reacted to uncertainty more defensively than participants with high explicit and high implicit self-esteem. Schmeichel et al. (2009; Study 3) investigated the role of secure and insecure self-esteem in reactions to MS and found that only participants with defensive self-esteem, but not secure self-esteem, increased their acceptance of a positive personality profile after writing about their own death as compared to the control condition in which they wrote about being separated from family and friends. Thus, it is important to consider not only the level of self-esteem, but the quality of the self-esteem as well (i.e., secure vs. unstable).

1.1.2 Collective Self-Esteem

If self-esteem is a measure of how well one is living up to one's cultural expectations, then collective self-esteem can be defined as how worthy that worldview is considered to be, and can be considered a reflection of one's social identity. According to Tajfel (1982), social identity is the value one derives from the knowledge that one's self-concept is defined in part by membership in a social group. The stronger one's social identity, the more reliant one would be on that identity as a source of death transcendence. Subsequently, a higher collective self-esteem for an individual who identifies closely with the social group might lead to a valued source of symbolic immortality. Consistent with this view, Kashima et al. (2004) found that collective MS threats caused defensive reactions among Japanese participants who, by virtue of living in a

collectivist culture, have a perpetually salient collective identity. A question that has not been investigated in the literature is whether or not making one's collective identity salient would lead to increased defensive reactions to collective MS threats in an individualist culture. In the study by Kashima et al., there appeared to be a trend in this direction among the Australian participants. Furthermore, this study focused exclusively on physical death. Participants were asked to imagine that everyone in their country had died as a result of a meteor strike. It would be important to know what might happen if the cultural values that make up the core of the cultural identity were threatened. In other words, is it necessary for everyone who shares one's worldview to die in order for the collective threat to be made salient, or is it enough that the cultural values that make up the worldview disappear? In war, it is often the case that adversaries attempt to impose their own worldviews and beliefs upon another culture, thus annihilating the original culture. The more realistic and relevant scenario of the annihilation of one's cultural worldview, rather than the complete destruction of the people within the culture, was the focus of the current project.

1.2 Collective Mortality Salience

As can be seen from the foregoing discussion, previous research has focused almost exclusively on personal mortality. These theories, and their anticipated behavioural effects, are all prepositioned on the idea that one's cultural worldview would be a source of symbolic immortality to buffer against the inevitability of death. What would happen if that worldview were threatened? What if the buffer was no longer available? How would participants respond when they are asked to reflect on the "mortality" of a social or collective group with which they identify, whether it be ethnic, religious, or political? The present study examined the effects of collective MS on personal beliefs and attitudes in a controlled laboratory setting.

1.3 An Interactionist Perspective

As seen in the foregoing discussion, the effects of MS are not cut and dried. Not only is the quality of self-esteem important (secure or defensive), but the source of the threat may be as well. Is it a threat to the self? Or is it a threat to the anxiety-buffering worldview?

Based on TMT, we would expect that threats to the buffer shielding us from the incapacitating anxiety of our knowledge about our mortality should lead to defensive reactions, including a hyper-vigilant defence of that buffer. In other words, threats to the Canadian culture, a potential source of symbolic immortality for Canadians, should lead to more extreme attitudes in defence of that worldview, including a greater level of commitment to Canada and greater support for Canadian policies. This should be particularly true when the Canadian identity has been primed.

Primes work to bring into greater awareness specific emotions, thoughts, identities, etc. that are associated with the prime itself (e.g., seeing a gun primes one with regards to aggression). Prior work has shown that participants displayed less out-group derogation when they were primed with their collective identity (the United States (US) flag) (Butz et al., 2007). The US flag primed participants with egalitarianism and thus caused them to be less discriminatory and engage in less defensive behaviours. Furthermore, Gailliot et al. (2008) found that under conditions of personal MS, participants who had first been reminded of egalitarian values were less defensive. However, if the target of the threat was the culture itself, thus threatening a source of symbolic immortality, would primes of the collective identity (i.e., the Canadian flag) increase defensive reactions?

Specifically, would collective primes, by strengthening the accessibility of the collective identity, trigger hostile defensiveness in response to threats to this identity? If so, this response would be in direct opposition to the beliefs congruent with the prime itself.

Beyond the effect of the prime itself, however, the quality of self-esteem as well as the source of the self-esteem (self or collective) might alter responses to MS. As has been shown in previous research, people with high explicit as well as high implicit personal self-esteem are less susceptible to the effects of MS than are people with high explicit and low implicit personal self-esteem. We hypothesize that the same would be true of collective self-esteem (CSE). That is, we hypothesize that participants with high explicit and high implicit CSE will be less susceptible to the impact of MS when the target is the self. However, we hypothesize that when the target of the MS is the collective, participants who are highly invested in that collective identity (i.e., those with high implicit and high explicit CSE) will be more reactive than those who are not invested in that collective identity.

We also hypothesized that participants in the personal MS condition would complete more word fragments with death-related words than either the control or collective MS participants. Additionally, participants in the collective MS condition were expected to complete more word fragments with nationalist related words than either the personal MS or control condition participants.

Finally, given that the effects of MS have been found to be independent of mood (e.g., Harmon-Jones et al., 1997; Schmeichel et al., 2009), we hypothesized that there would be no significant difference between groups in either positive or negative affect.

2 Method

2.1 Participants

Participants were 123 (63 males, 60 females) civilians ranging in age from 18 to 58 ($M = 27.83$, $SD = 10.36$). Of the 123 participants, 114 were Canadian citizens and 82 were born in Canada. The average age at which participants who were born elsewhere moved to Canada was 12.51 years ($SD = 8.85$) and the average length of time those participants have been in Canada was 12.74 years ($SD = 7.48$).

Analyses comparing participants who were Canadian citizens to those who were not indicated that there was a significant difference between the two groups only on positive affect ($t = 2.78$, $p < .01$). Participants who were not Canadian citizens were significantly happier ($M = 34.44$, $SD = 9.37$) than participants who were Canadian citizens ($M = 26.17$, $SD = 8.54$). However, due to the extreme difference in sample size, this difference should be interpreted cautiously. There were no other significant differences between Canadian and non-Canadian citizen participants.

Analyses comparing participants who were born in Canada to participants who were born elsewhere indicated that there was a significant difference between the two groups on right-wing authoritarianism ($t = 2.52$, $p < .05$). Participants who were born outside of Canada scored significantly higher on right-wing authoritarianism ($M = 68.02$, $SD = 12.19$) than Canadian-born participants ($M = 62.34$, $SD = 11.60$). There were no other significant differences between Canadian-born and foreign-born participants.

All participants were run individually in a laboratory setting and were randomly assigned to a condition in a 2 (Prime: flag, no flag) × 3 (MS: control, personal MS, collective MS) between-subjects factorial design.

The methodology and questionnaires were reviewed and approved by the DRDC Human Research Ethics Committee (HREC) and all participants received remuneration according to DRDC guidelines.

2.2 Procedures

Participants responded to a call for a study investigating the relationship between individual differences and attitudes towards Canadian domestic and foreign policies. Upon arrival at the DRDC Toronto laboratory, participants who were randomly assigned to the flag condition were seated in front of a computer behind which hung a 61 cm × 122 cm poster of a Canadian flag. In the no-flag condition, the wall behind the computer was blank. All of the measures were presented to participants on the computer using MediaLab and DirectRT (Jarvis, 2008a & 2008b). Participants first completed a general demographics questionnaire (see Annex A), then completed the Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965; see Annex B), and the Collective Self-Esteem Scale (CSES; Luhtanen & Crocker, 1992; see Annex C), followed by a series of filler questionnaires designed to strengthen the cover story of investigating individual difference characteristics.[1]

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[1] Because these questionnaires were not included in any analyses and were simply included as fillers, they have not been included in any Annexes.

Participants then proceeded to complete a Personal Implicit Associations Test and a Collective Implicit Associations Test (PIAT & CIAT; Greenwald & Farnham, 2000; Greenwald, et al., 2003). In the PIAT, participants were required to categorize words as either being related or unrelated to the self and as being either pleasant or unpleasant by pressing one of two computer keys. After practice trials, a critical block of trials required participants to use one key to categorize words as related to self or pleasant and another key to categorize words as not related to self or unpleasant. Then the associations were reversed, and participants were required to categorize words as either related to self or unpleasant with one key and to categorize words as either not related to self or pleasant with another key (i.e., the pairings were reversed).[2] The difference in mean reaction times between the inconsistent (me + unpleasant) and the consistent (me + pleasant) blocks was used to determine implicit personal self-esteem. The procedures for the CIAT mirrored those of the PIAT using Canada/not Canada in place of me/not me and Canadian and non-Canadian images in place of words related or not related to the self.

Participants then completed the MS manipulation. Participants in the personal MS condition were asked to "Please briefly describe the emotions that the thought of your own death arouses in you. Jot down, as specifically as you can, what you think will happen to you physically as you die and once you are physically dead" (adapted from Rosenblatt et al, 1989). In the control condition, participants were asked parallel questions about dental pain. In the collective MS condition, participants were asked to "Please briefly describe the emotions aroused in you when you think about the disintegration or death of Canada's national identity as you know it. Jot down as specifically as you can what you think will happen to Canada as its national identity disintegrates and once the Canadian identity as you know it no longer exists."

Past research has shown that it is only when personal mortality is salient in the periphery of awareness that defensive reactions are evident (e.g., Greenberg et al., 1994). Therefore, participants completed a series of filler personality questionnaires prior to completing the manipulation check and the dependent variable.

Participants then completed the Positive and Negative Affect Scales (PANAS; Watson et al., 1988; see Annex D) and a word fragment completion (WFC) task (see Annex E), which was used as a manipulation check, and the Attitudes Towards Canada Questionnaire (ATCQ; see Annex F) that served as the dependent variable. Upon completion of the ATCQ, participants were debriefed.

2.3 Measures

2.3.1 Rosenberg Self-Esteem Scale (RSES)

The RSES (Rosenberg, 1965) was used to assess participants' overt beliefs about themselves. This measure is the most widely used measure of self-esteem that exists in the literature and it has

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[2] The critical blocks were counterbalanced so that some participants received the consistent (me + pleasant or Canada + pleasant) pairing first while others received the inconsistent (me + unpleasant or Canada + unpleasant) pairing first. There were no significant differences between participants who did the consistent pairing first ($M = 1.35$, $SD = .84$ for PIAT; $M = 1.33$, $SD = .99$ for CIAT) and those that did the inconsistent pairing first ($M = 1.54$, $SD = 1.50$ for PIAT; $M = 1.35$, $SD = 1.01$ for CIAT) (ts = -.78 for PIAT & -.11 for CIAT; ps > .05).

been shown to be a reliable and valid measure of explicit self-esteem with alpha reliabilities ranging from .72 to .90 (Robins et al., 2001). Validity for the RSES was first established through the use of peer ratings (Rosenberg, 1965). Since then, other studies have correlated the RSES with other measures of self-esteem (e.g., Global self-worth scale of the Self-Perception Profile for Adolescents, Hogborg, 1993). The 10 items were rated on a 4-point Likert scale, ranging from *Strongly Disagree* (1) to *Strongly Agree* (4). Items on the scale that were negatively worded were rescored so that higher scores indicated higher personal explicit self-esteem. The RSES was found to have high internal consistency (Cronbach's $\alpha = .84$) and, therefore, was summed to create one overall explicit personal self-esteem score.

2.3.2 Collective Self-Esteem Scale (CSES)

The CSES (Luhtanen & Crocker, 1992), which was adapted for use with a Canadian population, is a 16-item scale used to assess participants' overt beliefs about their connection to Canada and the importance to them of their Canadian identity. While this measure was initially created for use in evaluation of a general group membership, it was intended to be adaptable for use with specific groups. The CSES has since been adapted for use in measuring collective self-esteem within specific groups (e.g., Derks et al., 2009; Kaiser et al., 2006; Sato & Cameron, 1999) and has been shown to be equally reliable ($\alpha = .89$). The overall scale can be subdivided into four subscales each consisting of four items. *Membership esteem* (CSES:ME) measures how worthy a member of the culture a participant judges themselves to be (e.g., "I am a worthy member of Canadian society"). The *private* (CSES:PR) subscale measures a participant's judgement about how good their group is (e.g., "I feel good about Canada and being Canadian"). The *public* (CSES:PU) subscale assesses participants' judgements about how they feel others view their social group (e.g., "In general, others respect Canada"). The *identification* (CSES:ID) subscale assesses how important being Canadian is to a participant's identity (e.g., "Being Canadian is an important reflection of who I am"). The items were rated on a 7-point Likert scale, ranging from *Strongly Disagree* (1) to *Strongly Agree* (7). Items on the scale that were negatively worded were rescored so that higher scores indicated higher explicit collective self-esteem. Internal consistency for the overall scale was found to be high ($\alpha = .86$) and it, therefore, was summed to create one overall explicit collective self-esteem score. Internal consistency for CSES:ME, CSES:PR, and CSES:ID were also found to be high (α ranged from .78 to .86), therefore, the appropriate items for the subscales were also summed to create subscale scores. The internal consistency for CSES:PU was found to be low ($\alpha = .68$) and, therefore, was excluded from further analysis.

2.3.3 Positive and Negative Affect Scale (PANAS)

The PANAS (Watson et al., 1988) is a widely used mood scale that asks participants to rate the applicability of adjectives to their current mood state (e.g., interested, hostile, etc.). Items are rated on a 5-point scale ranging from *Very slightly or not at all* (1) to *Extremely* (5). The 10 positive affect (PA) items were summed ($\alpha = .92$) as were the 10 negative affect (NA) items ($\alpha = .77$) to create PA and NA subscales, respectively.

2.3.4 Word Fragment Completion (WFC) Task

The WFC task was included to assess the accessibility of both death thoughts (WFC:M) and nationalistic thoughts (WFC:N). In this task, six of the words could be completed with death-related words (e.g., COFF_ _ could be completed as either COFFEE or COFFIN) and six of the words could be completed with nationalism-related words (e.g., ANT_E_ could be completed as either ANTLER or ANTHEM). This technique for assessing accessibility has been used in the past to measure death thoughts after MS manipulations (e.g., Arndt et al., 1997; Schmeichel et al., 2009).

2.3.5 Attitudes Towards Canada Questionnaire (ATCQ)

The ATCQ that was developed specifically for this study consists of 40 items assessing various aspects of participants' attitudes towards Canada. There are subscales for Personal Commitment to Canada (ATCQ:PC) (e.g., I would be willing to die for Canada; $\alpha = .85$), Expectations for Others' Commitment (ATCQ:OC) (e.g., Other Canadians and recent immigrants to Canada should be willing to die for Canada, $\alpha = .79$), Domestic Policy (ATCQ:DP) (e.g., In order to counter terrorism in Canada, government authorities should have the power to search a suspect's home without a warrant, $\alpha = .78$), Canadian Foreign Policy (ATCQ:CFP) (e.g., Canada was justified in intervening militarily in Afghanistan, $\alpha = .79$), and Allied Foreign Policy (ATCQ:AFP) (e.g., If the US were to engage in a violent confrontation with Iran, Canada should show solidarity with the US, $\alpha = .79$). All items were rated on a 7-point Likert scale ranging from *Strongly disagree* (1) to *Strongly agree* (7). After recoding negatively worded items, the overall ATCQ was found to be highly reliable and, therefore, also was summed to create an overall ATCQ score ($\alpha = .89$).

3   Results

3.1 Data Preparation and Screening

Prior to analysis, all variables were examined for missing data. Of the 123 participants, one female participant did not complete the PIAT, and one female participant did not complete both the PIAT and the CIAT. Therefore, these participants were eliminated from any analyses that included these variables.

Ten univariate outliers (i.e., $z > |3.29|$, $p < .001$) were converted to the next most extreme case, which is a commonly suggested measure for dealing with univariate outliers (e.g., Kline, 1998). Next, the univariate skewness and kurtosis of the data were assessed. The recommended values for significance of skewness and kurtosis are $|1|$ and $|7|$, respectively (West et al., 1995). Violations of normality greater than these suggested cutoffs have been shown to effect the interpretations made in the process of multivariate analyses (Tabachnick & Fidell, 2001). The skewness of CSES:PR, NA, and PIAT fell outside of the cutoff and, therefore, these variables were transformed.

3.2 Descriptive statistics

The descriptive statistics for all variables are shown in *Table 1*. All of the measures fell into the acceptable range of .70 or higher for Cronbach's alpha with the exception of the CSES:PU, which was not used in any further analysis due to its low reliability in this study.

There were a number of significant correlations among the variables (see *Table 2*). However, only those of theoretical importance will be discussed here. As in past research, the implicit and explicit measures of self-esteem were uncorrelated (i.e., RSES was uncorrelated with PIAT and CSES was uncorrelated with CIAT). Consistent with TMT hypotheses, RSES was significantly positively correlated with CSES, as well as the subscales of CSES. In other words, participants with high self-esteem identified closely with Canada, viewed Canada positively, and most importantly, felt they were worthy members of Canadian society.

CSES and CSES subscale scores were significantly positively correlated with ATCQ:PC and ATCQ:OC. Therefore, participants who closely identified with Canada and felt positively towards their Canadian identity were more willing to state that they would make sacrifices for Canada and felt others should be willing to sacrifice themselves as well. However, there was a relatively stronger correlation with ATCQ:PC than with ATCQ:OC. In other words, participants seemed more willing to commit themselves than to believe others should commit. This pattern also held true for PIAT, which was more strongly, positively correlated with ATCQ:PC than with ATCQ:OC, though both of these correlations were significant. On the other hand, CIAT was not significantly correlated with the overall ATCQ score or any of the ATCQ subscales though there was a marginally significant positive correlation between CIAT and ATCQ:DP.

Consistent with the idea that high self-esteem buffers one against thoughts of death, there was a marginally significant, negative correlation between PIAT and WFC:M. Thus, participants who had higher implicit self-esteem were less likely to complete word fragments with death-related

Table 1: Descriptive statistics for all measured variables.

Variable	M	SD	α
RSES	31.21	4.63	.84
CSES	89.31	10.88	.86
CSES: Membership (CSES:ME)	22.94	3.55	.81
CSES: Private (CSES:PR)[a]	22.45	3.12	.78
CSES: Public (CSES:PU)	25.20	2.92	.68
CSES: Identity (CSES:ID)	18.75	5.18	.86
PIAT[b]	1.34	1.10	.85
CIAT	1.27	0.87	.80
Positive Affect (PA)	26.78	8.83	.92
Negative Affect (NA)[c]	12.62	3.21	.77
WFC: Mortality (WFC:M)	1.50	0.68	n.a.
WFC: Nationalism (WFC:N)	1.02	0.82	n.a.
ATCQ	149.02	25.63	.89
ATCQ: Personal Commitment (ATCQ:PC)	31.28	8.24	.85
ATCQ: Commitment of Others (ATCQ:OC)	30.20	7.06	.79
ATCQ: Domestic Policies (ATCQ:DP)	29.51	8.21	.78
ATCQ: Canadian Foreign Policy (ATCQ:CFP)	30.79	7.65	.79
ATCQ: Allied Foreign Policy (ATCQ:AFP)	27.20	7.48	.79

Note. *a* = reflected, square root transformed, reflected; *b* = square root transformed; *c* = reflected, inverse transformed.

words than participants who were low in implicit self-esteem. Not surprisingly, however, participants who scored higher on NA completed more mortality-related word fragments than participants who scored lower on NA. PA, on the other hand, was unrelated to word fragment completion. A similar positive-negative asymmetry was observed by Mandel and Vartanian (2010) in relation to national and international security threat perception.

The subscales of the ATCQ were highly significantly correlated with some notable exceptions. ATCQ:PC was uncorrelated with ATCQ:DP and both ATCQ:PC and ATCQ:OC was uncorrelated with ATCQ:AFP. In other words, there was no relation between how committed participants felt towards Canada and how they felt about Canadian domestic policy. Furthermore, there was no relationship between how committed participants felt as well as how committed they felt others should be and how positively or negatively they felt towards Canadian allies' foreign policies.

3.3 Inferential Analyses

3.3.1 Word Fragment Completion

A 2 (Prime) × 3 (MS) between-subjects analysis of variance (ANOVA) was performed on the WFC:M and the WFC:N. For the WFC:M, there were no significant main effects or interactions. For the WFC:N, there was a significant main effect of prime [$F (1, 117) = 8.04$, $p < .01$]. As

Table 2: Inter-correlation of variables used in further analyses.

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. RSES																
2. CSES	.41**															
3. CSES:ME	.58**	.71**														
4. CSES:PR^a	.22*	.77**	.49**													
5. CSES:ID	.19*	.82**	.39**	.53**												
6. PIAT^b	.07	.07	.13	.05	.01											
7. CIAT	.14	.10	.12	.05	.02	.49**										
8. PA	.22**	.24**	.21*	.18*	.13	.02	.18*									
9. NA^c	-.22*	-.13	-.21*	-.10	-.07	-.13	.00	-.02								
10. WFC:M	.00	-.04	-.03	.04	.02	-.17†	-.02	.04	.25**							
11. WFC:N	.05	.05	.01	-.04	.12	-.05	.00	.09	-.08	-.04						
12. ATCQ	.09	.21*	.14	.15†	.19*	.23**	.10	.05	-.19*	.03	.05					
13. ATCQ:PC	.05	.46**	.26**	.42**	.51**	.23**	.04	.08	-.15†	-.03	.06	.57**				
14. ATCQ:OC	.04	.38**	.20*	.33**	.36**	.20*	.05	-.03	-.06	.07	.11	.71**	.71**			
15. ATCQ:DP	.18*	.05	.11	-.09	-.02	.09	.17†	.16†	-.22**	.03	-.07	.65**	.03	.19*		
16. ATCQ:CFP	-.05	.00	.00	.01	-.06	.23**	.12	-.01	-.01	.02	.08	.78**	.23**	.38**	.45**	
17. ATCQ:AFP	.05	-.15†	-.11	-.14	-.14	-.01	-.07	-.05	-.16†	.03	.00	.61**	-.07	.14	.43**	.54**

Note. † $p \leq .10$. $p \leq .05$. ** $p \leq .01$. a = reflected, square root transformed and reflected; b = square root transformed; c = reflected and inverse transformed.

expected, participants in the flag condition used significantly more nationalistic words to complete the word fragments ($M = 1.23$, $SD = 0.88$) than did participants in the no flag condition ($M = 0.82$, $SD = 0.72$).

3.3.2   Positive and Negative Affect

A 2 (Prime) × 3 (MS) between-subjects ANOVA was conducted to investigate whether there were any mood differences across conditions. In line with past research, there was no significant main or interaction effect on either positive or negative affect.

3.3.3   Situational factors

A series of ANOVAs were conducted to assess the effect of prime and MS on the ATCQ and its subscales. None of the main or interaction effects was significant for any of the dependent variables when all three levels of the MS condition were included. When comparing the control condition to the personal MS condition only, however, there was a main effect of the MS condition on ATCQ:CFP [$F(1, 79) = 4.62$, $p < .05$]. Participants in the control condition held less positive attitudes towards Canadian foreign policy ($M = 3.62$, $SD = 0.93$) than did participants in the personal MS condition ($M = 4.04$, $SD = 0.90$).

Further, when comparing the control condition to the collective MS condition only, there were marginally significant main effects of the MS condition on both personal commitment [$F(1, 77) = 3.42$, $p = .07$] and other commitment [$F(1, 77) = 2.81$, $p = .10$]. Participants in the collective MS condition indicated more personal commitment to Canada ($M = 4.13$, $SD = 1.07$) and believed others should be committed to Canada ($M = 3.98$, $SD = 0.90$) than did their control condition counterparts ($M = 3.72$, $SD = 0.91$ & $M = 3.66$, $SD = 0.73$ for ATCQ:PC and ATCQ:OC, respectively).

3.3.4   Personal Self-esteem

Two participants did not complete the PIAT and, therefore, were excluded from the analysis investigating the impact of personal self-esteem. Mahalabonis distance (d) was used to assess the multivariate normality of the remaining 121 participants. One participant was found to be a multivariate outlier ($d = 119.01$, $p < .001$) and, therefore, was eliminated from these analyses. The remaining 120 participants were assessed.

A series of stepwise multiple regression analyses were conducted using the overall ATCQ along with the ATCQ subscales as criterion variables. In each regression, MS (dummy coded), RSES (centered), PIAT (centered), along with their 2- and 3-way interaction terms were entered into the analysis. If the 3-way interaction was not significant, a subsequent analysis was conducted that included the main effects and 2-way interactions only. If none of the 2-way interactions was significant, a final analysis was conducted that only included the main effect variables. Any alterations to this pattern are noted.

Because there were three levels of the MS variable (control, personal MS, and collective MS), two dummy variables were needed to represent this term. Therefore, the MS variable and any

interaction that included an MS variable were represented by two terms (Aiken & West, 1991). The significance of each of the terms represented the significance of the variable comparing two of the three groups. In order to assess the significance of the overall term, each set of two terms was entered into the equation on a separate step and the change in the squared multiple correlation (R^2) was assessed. As seen in the example in *Table 3*, it was, therefore, possible for an overall interaction to not be significant, but the interaction when only comparing two of the three groups to be significant. In this example, the overall significance of the interaction between the categorical and continuous variables was not significant as evidenced by the R^2 change statistic; however, when examining the interaction comparing only the two groups represented by dummy code 2, the interaction was significant. In this case, the overall term would have been retained.

Table 3. Example of complex regression.

Variable	t	p	R^2 change	p of R^2 change
Categorical variable:			.03	.18
dummy code (dc) 1	-1.01	.31		
dummy code (dc) 2	0.83	.41		
Continuous variable	4.84	.00	.16	.00
Categorical × Continuous:			.03	.10
dc1 × continuous	-0.94	.35		
dc2 × continuous	-2.12	.04		

3.3.4.1 ATCQ:PC

Using ATCQ:PC as the criterion variable, there was a significant main effect of PIAT ($t = 2.32$, $p < .05$) that was qualified by a marginally significant MS × RSES × PIAT interaction ($F_{R^2 \text{ change}} = 2.64$, $p = .08$; see *Figure 1*). To investigate this interaction further, we decomposed it using the dummy coding established for MS and centering RSES and PIAT at one standard deviation above and below the mean as recommended by Aiken and West (1991). This decomposition indicated that, although the pattern of results did not differ between the dental pain control and collective MS groups ($t = 0.19$, $p = .85$), the pattern of results within the personal MS group was significantly different from that of the control group ($t = 2.03$, $p < .05$) and the collective MS group ($t = 2.22$, $p < .05$).

Among participants in the personal MS condition, there was a significant RSES × PIAT interaction ($t = 2.33$, $p < .05$). Looking at this interaction in the personal MS condition more fully showed that there was a significant slope of RSES among participants with high PIAT ($t = 2.73$, $p < .01$). Thus, among participants in the personal MS condition who were high in implicit self-esteem, those who were high in explicit self-esteem were more willing to proclaim their personal commitment to Canada than were participants who were low in explicit self-esteem. Furthermore, there was a significant positive slope of PIAT among participants with high RSES scores ($t = 2.96$, $p < .01$) and a marginally significant negative slope of PIAT among participants with low RSES scores ($t = -1.42$, $p = .16$). In other words, among participants in the personal MS condition who were high in explicit self-esteem, those who were high in implicit self-esteem were more

likely than participants with low implicit self-esteem to express a personal commitment to Canada. Conversely, when participants were low in explicit self-esteem, higher levels of implicit self-esteem were associated with lower personal commitment to Canada. In fact, these participants, who were low in explicit self-esteem and high in implicit self-esteem were less likely to endorse a personal commitment to Canada than were their counterparts in the control ($t = -1.76$, $p < .08$) or collective MS condition ($t = -2.29$, $p < .05$). On the other hand, participants with both high implicit and explicit self-esteem were marginally more likely to endorse personal commitment to Canada than were their control condition ($t = 1.94$, $p = .06$) or collective MS ($t = 1.49$, $p = .14$) counterparts.

Figure 1. ATCQ:PC score as a function of MS condition, RSES, and PIAT.

3.3.4.2   ATCQ:OC

Using ATCQ:OC as the criterion variable, there was a significant main effect of PIAT ($t = 2.55$, $p < .05$), but there were no other main or interaction effects. However, looking at the plot of the ATCQ:OC scores predicted by the regression equation (see *Figure 2*), we once again see the pattern of results evidenced in *Figure 1*, though the magnitude of the effect is much smaller.
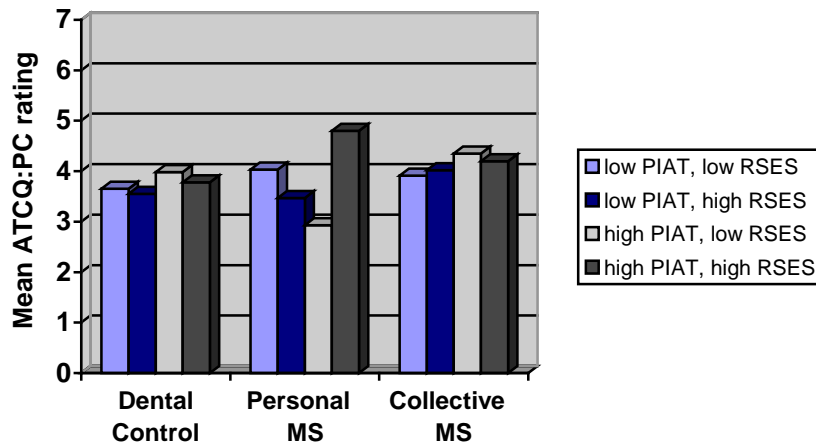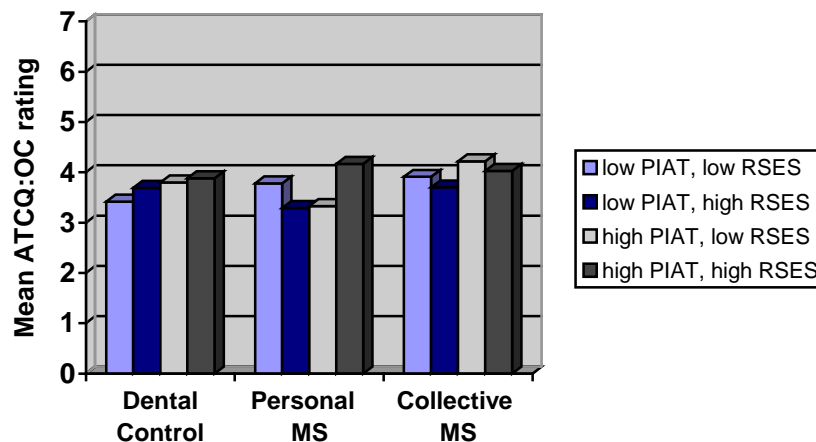

Figure 2. ATCQ:OC score as a function of MS condition, RSES, and PIAT.

3.3.4.3   ATCQ: DP

Using ATCQ:DP as the criterion variable, there was a significant MS × PIAT interaction [$F_{R^2change}$ (2, 113) = 3.16, $p < .05$, see *Figure 3*]. In decomposing this interaction, we see that there is no significant difference between the pattern of results in the personal and collective MS conditions ($t = 0.80$, $p = .43$). However, the pattern of results within the control group was marginally different from that of the collective MS group ($t = 1.64$, $p = .10$) and was significantly different from that of the personal MS group ($t = 2.49$, $p < .05$). Within the personal MS condition, there was a significant simple slope of PIAT ($t = 2.08$, $p < .05$). Thus, for participants in the personal MS condition, there was a significant positive correlation between PIAT scores and attitudes towards extreme domestic policies. This appeared to stem from an increase in acceptance among high PIAT participants. Compared to control condition participants, those participants who were reminded of their personal mortality and had high PIAT scores were more likely to hold positive attitudes toward domestic policies ($t = 2.441$, $p < .05$). Communal MS participants who scored high in PIAT did not differ significantly from high PIAT participants in either the control group ($t = 1.46$, $p = .15$) or the personal MS group ($t = -1.03$, $p = .30$).
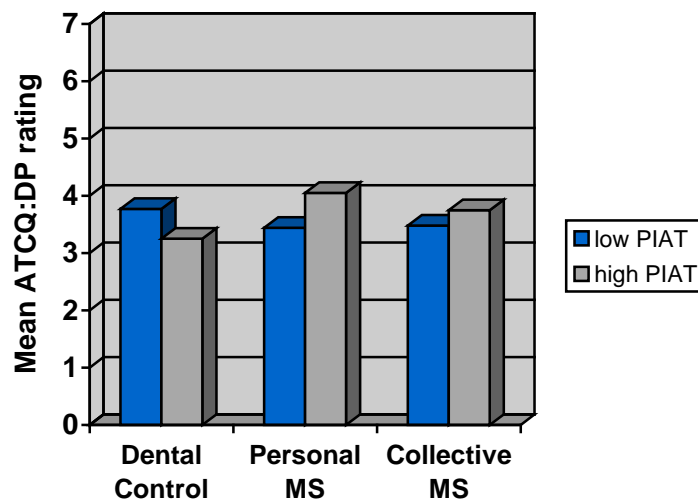
Figure 3. ATCQ:DP score as a function of MS condition and PIAT.

3.3.4.4   Overall ATCQ, ATCQ:CFP

There were no significant 2- or 3-way interactions using the overall ATCQ or ATCQ:CFP as the criterion variables. As seen in the bivariate correlations, however, PIAT contributed significantly to the prediction of overall ATCQ and ATCQ:CFP such that PIAT scores were positively correlated with both variables.

3.3.4.5   ATCQ:AFP

There were no significant main effects or interactions using the ATCQ:AFP as the criterion variable.

3.3.5　Collective Self-esteem

One participant did not complete the CIAT and was, therefore, excluded from the analysis investigating the impact of collective self-esteem. The d was used to assess the multivariate normality of the remaining 122 participants. One participant was found to be a multivariate outlier ($d = 120.00$, $p < .001$) and was, therefore, eliminated from these analyses. The remaining 121 participants were assessed.

As with the analysis of personal self-esteem, a series of stepwise multiple regression analyses were conducted using the overall ATCQ along with the ATCQ subscales as criterion variables. In each regression, MS (dummy coded), CSES (centered), CIAT (centered), along with their 2- and 3-way interaction terms were included as predictors. The same process of testing higher order interactions and reducing the regression as a result of non-significant results was followed.[3]

3.3.5.1　ATCQ:PC

Using ATCQ:PC as the criterion variable, there was no significant 3-way interaction. Therefore, this term was removed from the analysis and the regression was re-run including all main effect and 2-way interaction terms. Both the MS × CSES interaction ($F_{R^2\ change} = 3.41$, $p < .05$) and the CSES × CIAT interaction ($t = 2.25$, $p < .05$) were significant. While the MS × CIAT interaction was not found to be significant overall ($F_{R^2change} = 1.37$, $p = .26$), the interaction was significant when comparing only the personal and collective MS groups ($t = 2.12$, $p < .05$). To aid in the discussion of the interactions, they were displayed in one overall graph and then in three separate graphs representing each of the three interactions (see *Figures 4A-4D*).

Across groups (*Figure 4B*), the ratings of personal commitment for participants who were low in CSES was negatively correlated with CIAT ($t = -2.29$, $p < .05$). Further, for participants who scored highly on the CIAT, ATCQ:PC ratings were positively correlated with CSES ($t = 4.95$, $p < .001$). In other words, the data appear to indicate that participants who were not willing to explicitly portray a positive attitude towards Canada, but had an implicit bias in favour of Canada, were significantly less likely than all other participants to offer a personal commitment to Canada.

As mentioned previously, the MS × CIAT interaction was only significant when the personal and collective MS conditions were considered (see *Figure 4C*). Among participants with a low CIAT score, there was a marginally significant difference on ATCQ:PC between participants in the personal MS and collective MS conditions ($t = 1.71$, $p = .09$). However, this difference was not significant among participants who scored high on the CIAT ($t = -1.25$, $p = .21$). Further, among

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[3] The hypothesis postulated was focused only on the overall CSES in relation to MS and the CIAT, therefore only regressions involving the overall CSES are reported. Regressions including the CSES subsets instead of the overall CSES were also conducted and the findings were similar to those found using the overall CSES.

A.
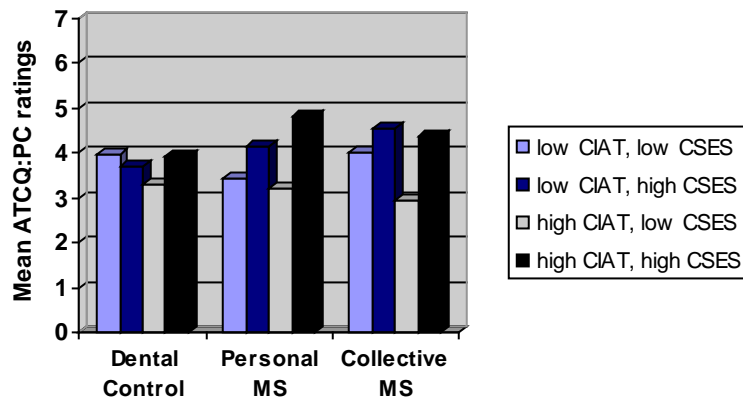
B.
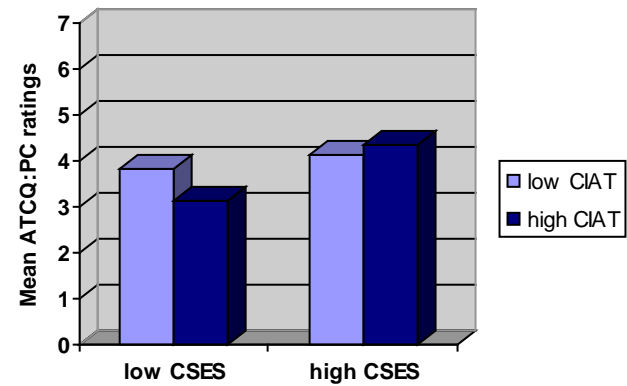
C.
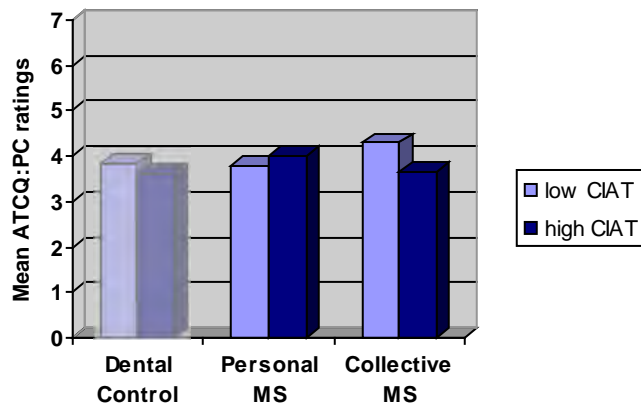
D.
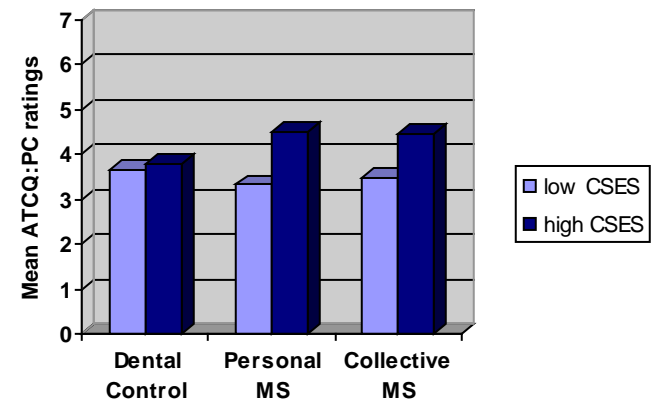
Figure 4. ATCQ:PC score as a function of MS condition, CSES, and CIAT.

participants in the personal MS condition, there was no correlation between the CIAT and ATCQ:PC ($t = .93$, $p = .35$); however, there was a significant negative correlation between the CIAT and ATCQ:PC among participants in the collective MS condition ($t = -1.94$, $p = .05$).

Deconstructing the MS × CSES interaction, we see that there is a significant slope of CSES in both personal MS ($t = 4.20$, $p < .01$) and collective MS ($t = 3.22$, $p < .01$) conditions, but not in the dental pain control condition ($t = .47$, $p = .64$). In other words, for both the personal and collective MS conditions, there was a positive correlation between CSES scores and support for one's personal commitment to Canada. More specifically, we see that while there was no change in support for participants who scored low on CSES across conditions, participants who scored highly on CSES were significantly more willing to claim a strong personal commitment to Canada in the personal MS ($t = 2.24$, $p < .05$) and the collective MS ($t = 2.22$, $p < .05$) conditions than in the dental control condition.

3.3.5.2   ATCQ:OC

Using ATCQ:OC as the criterion variable, there was no significant 3-way interaction. Therefore, this term was removed from the analysis and the regression was re-run including all main effect and 2-way interaction terms. The MS × CSES interaction was not significant and therefore, was removed from the regression ($F_{R^2change} = 1.19$, $p = .31$). The CSES × CIAT interaction ($t = 2.42$, $p < .05$) was significant and the MS × CIAT interaction was marginally significant ($F_{R^2change} = 2.62$, $p = .08$). As when ATCQ:PC was used as the criterion variable, this interaction was only significant when comparing the personal and collective MS groups ($t = 3.02$, $p < .01$). Again, to aid in the discussion of the interactions, they were displayed in one overall graph and then in separate graphs representing each of the interactions (see *Figures 5A-5C*).

As with ratings of personal commitment, across groups (*Figure 5B*), the ratings of others' commitment for participants who were low in CSES was negatively correlated with CIAT ($t = -2.15$, $p < .05$). Furthermore, for participants who scored highly on the CIAT, ATCQ:OC ratings were positively correlated with CSES ($t = 4.40$, $p < .001$). Again, it appears that participants who were not willing to explicitly portray a positive attitude towards Canada, but had an implicit bias in favour of Canada, were significantly less likely than all other participants to believe that others should hold a personal commitment to Canada.

Again, the MS × CIAT interaction was only significant when the personal and collective MS conditions were considered (*see Figure 5C*). Among participants with low CIAT scores, there was a significant difference on ATCQ:OC between participants in the personal MS and collective MS conditions ($t = 2.81$, $p < .01$). However, this difference was not significant among participants who scored high on the CIAT ($t = -1.43$, $p = .16$). Moreover, among participants in the personal MS condition, there was a marginally significant positive correlation between CIAT and ATCQ:OC ($t = 1.70$, $p = .09$); however, there was a significant negative correlation between CIAT and ATCQ:OC among participants in the collective MS condition ($t = -2.50$, $p < .05$).

A.
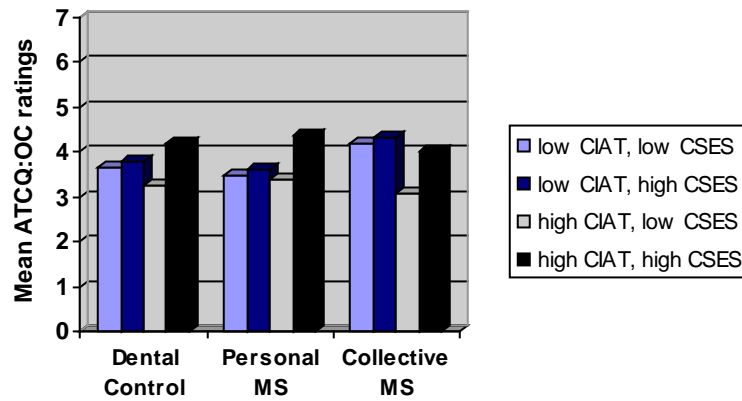
B.
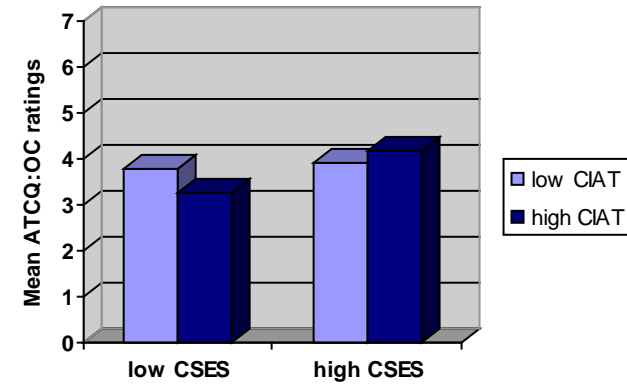
C.
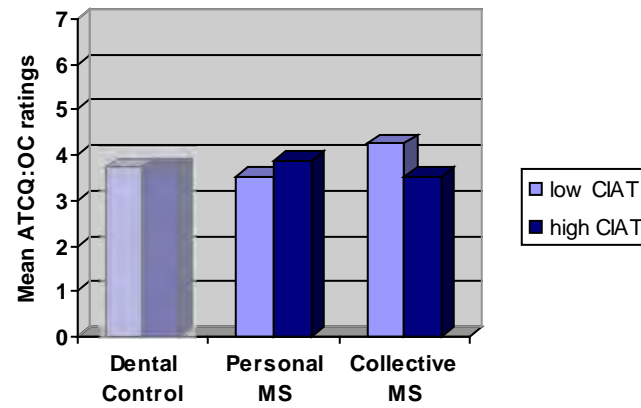
Figure 5. ATCQ:OC score as a function of MS condition, CSES, and CIAT.

3.3.5.3   ATCQ:AFP

Using ATCQ:AFP as the criterion, the 3-way interaction between MS condition, CSES, and CIAT was marginally significant ($F_{R^2\ change} = 2.15$, $p = .12$). However, this interaction was, again, only significant when focusing on the two MS groups ($t = 1.98$, $p = .05$; see *Figure 6*). However, when breaking down the interaction further, there were no significant main effects, simple slopes or interactions.
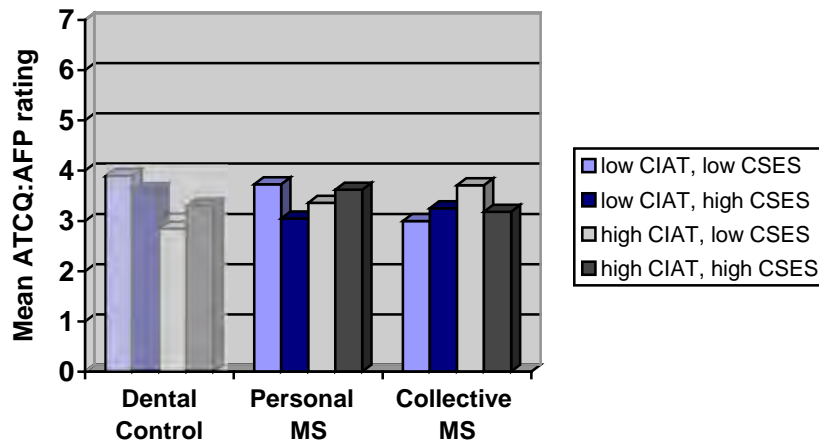
Figure 6. ATCQ:AFP as a function of MS condition, CSES, and CIAT.

3.3.5.4   ATCQ:DP

Using ATCQ:DP as the criterion variable, there was, again, a marginally significant MS × CSES interaction ($F_{R^2\ change} = 2.59$, $p < .08$). Again, this interaction was only significant when comparing the personal and collective MS groups ($t = 2.22$, $p < .05$), but not when comparing the control group to either the personal MS group ($t = -0.56$, $p = .58$) or the collective MS group ($t = 1.55$, $p = .12$). The CIAT was not found to have a significant main effect or to significantly interact with either of the other terms and, therefore, was removed from the regression (see *Figure 7*).

Investigating the MS × CSES interaction between the two MS groups further, we see that within the collective MS condition there is a significant slope of CSES ($t = 2.40$, $p < .05$). In other words, when the collective identity was threatened, there was a strong positive relationship between the value one placed on the culture and how extreme people were willing to be to protect Canada. While there was no difference across conditions in support of Canadian domestic policy when CSES scores were high, participants in the collective MS condition who scored low on the CSES were less likely than their counterparts in the personal MS condition to endorse extreme domestic policies ($t = 2.21$, $p < .05$).
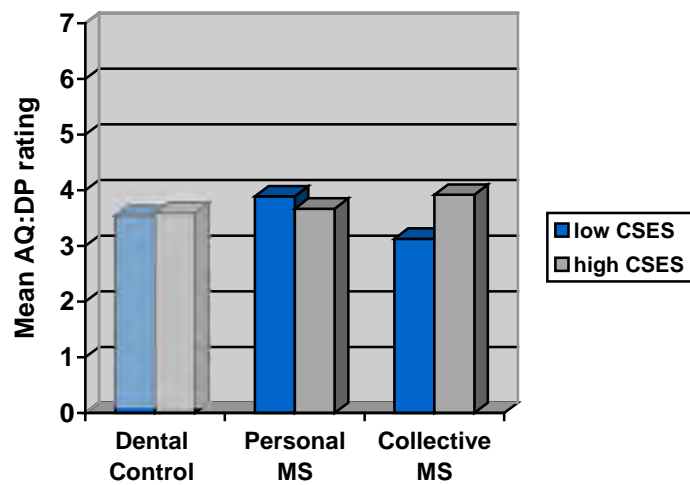
Figure 7. ATCQ:DP rating as a function of MS condition and CSES.

3.3.5.5   Overall ATCQ

There were no significant 2- or 3-way interactions using the overall ATCQ as the criterion variable. Only CSES scores contributed significantly to the prediction of overall ATCQ scores ($t = 2.69$, $p < .01$), such that CSES scores were positively correlated with overall ATCQ scores.

3.3.5.6   ATCQ: CFP

There were no significant main effects or interactions using either ATCQ:CFP as the criterion variable.

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4   Discussion

4.1 Findings

The purpose of this study was to investigate the effect of mortality salience on nationalistic commitment and beliefs. Past research has often investigated participants' agreement with and liking for an individual who espouses nationalistic views, but no study has looked at how MS might alter one's own espoused beliefs. Would MS have effects on this more personal level of behaviour? Additionally, we aimed to investigate whether or not these effects would be limited to threats to personal mortality or whether extreme nationalistic beliefs and behaviours might be elicited by threats to the source of one's symbolic immortality, their collective identity. Finally, we aimed to determine whether making one's national identity more salient would make individuals respond more zealously to threats or adhere more closely to the beliefs advocated in their national identity (i.e., peace, tolerance, presumed innocence, etc.).

While there were no overall main effects or interactions of MS or priming on participants' attitudes towards Canadian foreign and domestic policy or their beliefs about obligations towards Canada, there were important findings when we investigated moderating variables.

When personal self-esteem, both implicit and explicit, was used as a moderating variable, only reminders of personal mortality influenced participants' attitudes. Specifically, it altered their commitment to Canada as well as how committed they felt others should be towards Canada. Interestingly, it was participants with high implicit personal self-esteem that altered their attitudes in response to personal mortality reminders, increasing their commitment when their explicit personal self-esteem was also high and decreasing their commitment when their explicit personal self-esteem was low. Past research investigating TMT has found that high implicit personal self-esteem buffered against MS, however, this study, unlike previous research has focused on participants' support for their own nationalistic beliefs.

While both personal and collective MS altered participants' support for extreme domestic policies, they did not alter their attitudes towards Canadian or allied foreign policies. In the case of Canadian domestic policies, again, it was participants with high implicit personal self-esteem that were impacted by reminders of their personal mortality. It was these participants who were more likely than their control group counterparts to espouse more positive attitudes towards extreme domestic policies.

It appears that in the current study, high implicit personal self-esteem resulted in an amplification of beliefs, whether about the level of commitment required of Canadians or their willingness to sacrifice freedoms in order to secure Canada from threats. If personal self-esteem is a refection of how well we are living up to the standards set by our cultural worldview, as argued by TMT, one could argue that those with high personal self-esteem, particularly high explicit self-esteem, would have invested a great deal of themselves and their anxiety buffer in this worldview. This idea is supported by the fact that RSES scores were positively correlated with CSES scores. More specifically, it was strongly correlated with how closely participants identified with their Canadian identity and how worthy they felt as a member of Canadian society. Those with low explicit personal self-esteem have little invested in their worldview as an anxiety buffer. When

called upon due to personal MS, the participants with high implicit and high explicit personal self-esteem amplified their commitment to their Canadian identity and felt others should be willing to commit to Canada as well. On the other hand, those participants who were high in implicit self-esteem, but low in explicit self-esteem were more likely to deny their commitment to Canada or the need for others to commit to Canada when mortality was made salient to them.

Why is it that this study found that implicit self-esteem amplified beliefs and made participants more susceptible to MS effects when past research has typically found that high implicit self-esteem, especially paired with high explicit self-esteem buffered participants from MS effects? It seems clear that the uniqueness of the dependent variable included in this study created a situation that highlighted a distinct aspect of TMT not previously explored. In particular, the items included in the dependent variable, especially when it came to commitment to Canada, asked participants about a willingness to sacrifice safety, security, and even one's life for Canada. When mortality has already been made salient, and one's anxiety buffer has already been activated, the likelihood of stating that one might be willing to die to protect their culture, a potential source of this anxiety buffer is increased in those who are heavily invested in the culture, but severely decreased for those who are not heavily invested. In essence, those high in explicit and implicit personal self-esteem, when reminded of their mortality and asked about their willingness to die for their country, find meaning in this type of death such that their willingness to sacrifice is exacerbated. For those low in explicit personal self-esteem, there is seemingly no benefit to this ultimate sacrifice and, thus, they are unlikely to express a willingness to commit to Canada.

Interestingly, this finding was only applicable to the personal MS condition. In the communal MS condition, there was no impact of either implicit or explicit personal self-esteem. However, there were significant results amongst the communal MS participants when communal self-esteem was taken into account. We found that in both the personal and communal MS conditions, participants with high explicit communal self-esteem were more willing to express a personal commitment to Canada though there was no change in attitudes between those in either of the MS conditions and the control condition for participants who were low in explicit communal self-esteem. The pattern of results for beliefs about other's commitment to Canada followed the same pattern as those for personal commitment; however, they were somewhat weaker. The findings with regards to explicit communal self-esteem and communal MS were weaker than those found with implicit and explicit personal self-esteem and personal MS in general. There were, however, unique findings with regards to explicit communal self-esteem and communal MS when it came to Canadian domestic policy. When asked to think about the disintegration of the Canadian identity, participants who were high in explicit communal self-esteem were more likely than their low communal self-esteem counterparts to be willing to give up particular rights assured to all citizens in the Canadian constitution in defence against terrorists. It is interesting that when threatened with the extinction of the Canadian identity, people who took pride in that identity were more likely to give up rights that are integral to that identity.

A disappointing finding in this study was the fact that, unlike in previous research, participants in the personal MS condition did not complete more word fragments with death related words than control participants. Due to the failure of this standard manipulation check, there is some doubt with regards to the effectiveness of the MS manipulations. Despite this, however, there did appear to be an impact of the personal MS manipulation on the dependent variable.

Another surprising finding in the study was the lack of a significant priming effect of the presence of the Canadian flag on any of the dependent variables. It was initially anticipated that the presence of the flag would prime nationalistic feelings and, therefore, would exacerbate the effects of the communal MS manipulation in particular. While this hypothesis was not borne out, the reason for it might have been the setting in which the study itself took place. The study was conducted in a government defence building, which may have already primed participants' nationalism across all the groups.

4.2 Future Directions

The research conducted in the current project had some unexpected findings. While past research has indicated that secure self-esteem (i.e., high implicit and explicit self-esteem) has shielded people from the anxiety associated with thoughts of death, the current research has indicated that when the reminders of mortality are followed by opportunities to make one's death meaningful, participants who are highly invested in a worldview are more willing to state their intentions to sacrifice themselves for that worldview. These findings must be replicated to ensure that they are robust and stable.

One of the main undertakings for the current research was to discover how people might react when their worldview itself -- the hypothesized anxiety buffer against the effects of MS -- was threatened. While there were some interesting results with regards to communal MS and communal self-esteem, the expected findings that insecure personal self-esteem would leave participants vulnerable in the face of communal MS was not supported. One issue that might have affected the effectiveness of the communal MS manipulation might have been the inability of participants to imagine the "death of the Canadian national identity" as evidenced by the following excerpts from responses to the communal MS manipulations:

> "Well, I find it hard to believe that the national identity of Canada would disintegrate or die." (participant 45)

> "I have trouble with the word 'disintegrating'. I prefer to think that our identity is changing to reflect the changes in our population, technologies and passage of time." (participant 84)

> "… I personally feel that Canada's identity is one that [is] still evolving and the death of the 'current' national identity arouses very few emotions to me, as it is something I expect to happen." (participant 12)

This likely has a great deal to do with the fact that the Canadian national identity has never been seriously threatened. It may be difficult for a Canadian to understand the position of, for example, the Afghan population, which has been under some form of rule (i.e., Russian, Taliban) bent on challenging and changing the traditional Afghan identity for over 30 years. Perhaps presenting an example of a culture whose identity has been threatened or destroyed might make the cultural MS manipulation more impactful, giving us a better understanding of the impact of MS on cultures in peril.

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Annex A   Demographics Questionnaire

1. Gender: Female   Male

2. Age: ____ years.

3. Civilian   Military

3 a) If military, please indicate your rank by checking the appropriate box below.

NCMs		Officers	
Pte / AB		OCdt / NCdt	
Cpl / LS		2Lt / ASlt	
MCpl / MS		Lt / SLt	
Sgt / PO2		Capt / Lt(N)	
WO / PO1		Maj / LCdr	
MWO / CPO2		LCol / Cdr	
CWO / CPO1		Col / Capt(N)	
		BGen / Cdre	
		MGen / R Adm	
		LGen / V Adm	
		Gen / Adm	

3 b) If military, are you Regular Force ☐   or Reserve ☐   ?

3 c) If military, what uniform do you wear? Army ☐   Navy ☐   Air ☐

3 d) If civilian, are you a DND employee? ____ No   ____ Yes

4. What is the highest level of education you have achieved? (Please check *one.*)

☐ Started but haven't finished High school

☐ High school graduate

☐ Started but haven't finished College or Technical School

☐ College or Technical School Graduate

☐ Started but haven't finished University undergraduate degree

☐ Bachelor's Degree

☐ Started but haven't finished Master's degree

☐ Master's degree

☐ Started but haven't finished Doctorate or equivalent

☐ Doctorate degree or equivalent

5. In what language(s) do you consider yourself fluent? (Please list.)_____

6. Were you born in Canada?   ____ No   ____ Yes

6 a) If No, how old were you when you moved to Canada? _____

6 b) Are you a Canadian citizen?   ____ No   ____ Yes

6 c) If you were not born in Canada, in which country were you born? _____

6 d) In which country/countries did you live prior to moving to Canada? _____

Annex B   Rosenberg Self-Esteem Scale

Below is a list of statements dealing with your general feelings about yourself. Please indicate the extent to which you agree with each statement using the scale provided.

Strongly Disagree	Disagree	Agree	Strongly Agree
1	2	3	4

1. I feel that I am a person of worth, at least on an equal plane with others.   _____

2. I feel that I have a number of good qualities.   _____

3. All in all, I am inclined to feel that I am a failure.   _____

4. I am able to do things as well as most other people.   _____

5. I feel I do not have much to be proud of.   _____

6. I take a positive attitude toward myself.   _____

7. On the whole, I am satisfied with myself.   _____

8. I wish I could have more respect for myself.   _____

9. I certainly feel useless at times.   _____

10. At times I think I am no good at all.   _____

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Annex C Collective Self-Esteem Scale

The following questions concern how you feel about Canada and being Canadian.

We would like you to respond to the following statements on the basis of how you feel about Canada and your Canadian identity. There are no right or wrong answers to any of these statements; we are interested in your honest reactions and opinions. Please read each statement carefully and respond by using the scale provided:

Strongly disagree	Disagree	Disagree somewhat	Neutral	Agree somewhat	Agree	Strongly Agree
1	2	3	4	5	6	7

1. I am a worthy member of Canadian society.   _____

2. I often regret that I am Canadian.   _____

3. Overall, Canada is considered good by others.   _____

4. Overall, being Canadian has very little to do with how I feel about myself.   _____

5. I feel I don't have much to offer to Canada.   _____

6. In general, I'm glad to be a Canadian.   _____

7. Most people consider Canada, on average, to be more ineffective than other nations.   _____

8. Being Canadian is an important reflection of who I am.   _____

9. I am a cooperative participant in Canadian society.   _____

10. Overall, I often feel that Canada and being Canadian is not worthwhile.   _____

11. In general, others respect Canada.   _____

12. Being Canadian is unimportant to my sense of what kind of a person I am.   _____

13. I often feel I'm a useless member of Canadian society.   _____

14. I feel good about Canada and being Canadian.   _____

15. In general, others think that Canada is unworthy.   _____

16. In general, being a Canadian is an important part of my self-image.   _____

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Annex D   Positive and Negative Affect Scale

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you feel this way, right now, that is, at the present moment. Use the following scale to record your answers.

1	2	3	4	5
very slightly or not at all	a little	moderately	quite a bit	extremely

_____ interested

_____ distressed

_____ excited

_____ upset

_____ strong

_____ guilty

_____ scared

_____ hostile

_____ enthusiastic

_____ proud

_____ irritable

_____ alert

_____ ashamed

_____ inspired

_____ nervous

_____ determined

_____ attentive

_____ jittery

_____ active

_____ afraid

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Annex E   Word Fragment Completion Task

Listed below are a series of words with two of the letters missing. Please try to fill in the missing letters. Feel free to take as much time as you need.

Neutral Words

1.   HE_L_H   (HEALTH)
2.   _RI_ND   (FRIEND)
3.   A_TI_LE   (ARTICLE)
4.   G_RA_E   (GARAGE)
5.   RA__IT   (RABBIT)
6.   PE_P_E   (PEOPLE)
7.   _IT_HEN   (KITCHEN)
8.   S_ECI_L   (SPECIAL)
9.   T__FIC (TRAFFIC)
10. EXA__LE   (EXAMPLE)
11. PH__ICAL   (PHYSICAL)
12. _ARE_UL   (CAREFUL)

Mortality/Neutral Words

13. COFF__   (COFFIN/COFFEE)
14. GRA__ (GRAVE/GRADE)
15. SKU__ (SKULL/SKUNK)
16. DE__   (DEAD/DEED)
17. CORP__   (CORPSE/CORPUS)
18. STI__   (STILL/STIFF)

Nationalist/Neutral Words

19. _AR_ER   (HARPER/CAREER)
20. _EAVE_   (BEAVER/LEAVES)
21. ANT_E_   (ANTHEM/ANTLER)
22. F__G   (FLAG/FROG)
23. _OCKE_   (HOCKEY/LOCKED)
24. _O_KIES   (ROCKIES/COOKIES)

* Note: Word fragments will be randomly sorted before being administered to participants. Categorizations have been made for ease of evaluation.

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Annex F   Attitudes Towards Canada Questionnaire

Please indicate your level of agreement with each statement using the scales provided.

Strongly disagree	Disagree	Disagree somewhat	Neutral	Agree somewhat	Agree	Strongly Agree
1	2	3	4	5	6	7

Personal commitment

1. I would be willing to die for Canada.   _____

2. I would not be willing to die for Canada.   _____

3. It is worth making personal sacrifices to protect the Canadian way of life.   _____

4. It is not worth making personal sacrifices to protect the Canadian way of life.   _____

5. My personal safety is more important than the continuation of the Canadian way of life.

_____

6. The continuation of the Canadian way of life is more important than my personal safety.

_____

7. I would be willing to assimilate my behaviour in order to preserve the Canadian identity.

_____

8. I would not be willing to assimilate my behaviour in order to preserve the Canadian identity.

_____

Others commitment

9. Other Canadians and recent immigrants to Canada should be willing to die for Canada. _____

10. Other Canadians and recent immigrants to Canada need not be willing to die for Canada.

_____

11. Canadians and recent immigrants to Canada need to be willing to make personal sacrifices to protect the Canadian way of life.   _____

12. Canadians and recent immigrants to Canada need not be willing to make personal sacrifices to protect the Canadian way of life.   _____

13. The personal safety of Canadians and recent immigrants to Canada is more important than the continuation of the Canadian way of life.   _____

14. The continuation of the Canadian way of life is more important than the personal safety of Canadians and recent immigrants to Canada. _____

15. Canadians and recent immigrants to Canada should be willing to assimilate their behaviour in order to preserve the Canadian identity. _____

16. Canadians and recent immigrants to Canada should not be willing to assimilate their behaviour in order to preserve the Canadian identity. _____

Domestic policies

17. In order to counter terrorism in Canada, government authorities should have the power to search a suspect's home without a warrant. _____

18. Even to counter terrorism in Canada, government authorities should not have the power to search a suspect's home without a warrant. _____

19. In order to counter terrorism in Canada, government authorities should have the power to seize information from a suspect without a warrant. _____

20. Even to counter terrorism in Canada, government authorities should not have the power to seize information from a suspect without a warrant. _____

21. In order to counter terrorism in Canada, government authorities should have the power to tap a suspect's telephone lines without a warrant. _____

22. Even to counter terrorism in Canada, government authorities should not have the power to tap a suspect's telephone lines without a warrant. _____

23. In order to counter terrorism in Canada, government authorities should have the power to detain people based only on suspicion. _____

24. Even to counter terrorism within Canada, government authorities should not have the power to detain people based only on suspicion. _____

Foreign policy (Canadian)

25. Canada was justified in intervening militarily in Afghanistan. _____

26. Canada was not justified in intervening militarily in Afghanistan. _____

27. A major terrorist attack on Canadian soil has not yet occurred, but it is likely that terrorists are planning to attack Canada in the future. _____

28. A major terrorist attack on Canadian soil has not yet occurred, and it is unlikely that terrorists are planning to attack Canada in the future. _____

29. Airstrikes of strategic sites in Afghanistan should be permitted even if they might kill civilians. _____

30. Air strikes of strategic sites in Afghanistan should not be permitted if they might kill civilians. _____

31. Canada should implement tough economic sanctions even on underdeveloped countries if they harbour terrorists. _____

32. Canada should not implement tough economic sanctions on underdeveloped countries even if they harbour terrorists. _____

Foreign policy (Allied)

33. Canada should only fight terrorism by means endorsed by the UN. _____

34. Canada should fight terrorism by any means necessary even if they are not in line with the UN. _____

35. Canada should unequivocally support Israel's right to use military force to protect its citizens from Hamas rocket attacks. _____

36. Canada should not support Israel's right to use military force to protect its citizens from Hamas rocket attacks. _____

37. Canada must ensure that its foreign policies are in line with those of the U.S. _____

38. Canada must ensure that its foreign policies are independent of the U.S. _____

39. If the U.S. were to engage in a violent confrontation with Iran, Canada should show solidarity with the U.S. _____

40. If the U.S. were to engage in a violent confrontation with Iran, Canada should not show solidarity with the U.S. _____

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List of symbols/abbreviations/acronyms/initialisms

ANOVA	Analysis of Variance
ATCQ	Attitudes Towards Canada Questionnaire
ATCQ:AFP	Attitudes Towards Canada Questionnaire: Allied Foreign Policy subscale
ATCQ:CFP	Attitudes Towards Canada Questionnaire: Canadian Foreign Policy subscale
ATCQ:DP	Attitudes Towards Canada Questionnaire: Domestic Policy subscale
ATCQ:OC	Attitudes Towards Canada Questionnaire: Others' Commitment subscale
ATCQ:PC	Attitudes Towards Canada Questionnaire: Personal Commitment subscale
CIAT	Collective Implicit Associations Test
CF	Canadian Forces
CSE	Collective Self-Esteem
CSES	Collective Self-Esteem Scale
CSES:ID	Collective Self-Esteem Subscale: Identification
CSES:ME	Collective Self-Esteem Subscale: Membership Esteem
CSES:PR	Collective Self-Esteem Subscale: Private
CSES:PU	Collective Self-Esteem Subscale: Public
d	Mahalabonis distance
dc	Dummy code
DND	Department of National Defence
DRDC	Defence Research & Development Canada
DRDKIM	Director Research and Development Knowledge and Information Management
DV	Dependent Variable
F	F-test
HREC	Human Research Ethics Committee
M	Mean
MS	Mortality Salience
NA	Negative Affect
p	Probability
PA	Positive Affect
PANAS	Positive and Negative Affect Scales

PIAT	Personal Implicit Associations Test
PM	Prégnance de la mort
R^2	Squared multiple correlation
R&D	Research & Development
RSES	Rosenberg Self-Esteem Scale
SD	Standard Deviation
t	t-test
TMT	Terror Management Theory
US	United States
WFC	Word Fragment Completion
WFC:M	Word Fragment Completion: Mortality words
WFC:N	Word Fragment Completion: Nationalistic words
z	z-statistic
A	Cronbach's alpha

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1. ORIGINATOR (The name and address of the organization preparing the document, Organizations for whom the document was prepared, e.g. Centre sponsoring a contractor's document, or tasking agency, are entered in section 8.) Publishing: DRDC Toronto Performing: DRDC Toronto Monitoring: Contracting:	2. SECURITY CLASSIFICATION (Overall security classification of the document including special warning terms if applicable.) UNCLASSIFIED

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Effects of Self–Esteem and Mortality Salience on Attitudes Toward Canadian Security: Exploring the Significance of Implicit–Explicit and Personal–Collective Distinctions (U)
Les effets de l'estime de soi et de la prégnance de la mort sur les attitudes à l'égard de la sécurité canadienne : Analyse de l'importance des distinctions entre implicite et explicite d'une part et entre personnel et collectif d'autre part (U)

4. AUTHORS (First name, middle initial and last name. If military, show rank, e.g. Maj. John E. Doe.)

Emily–Ana Filardo; David R. Mandel; Oshin Vartanian

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(U) Terror Management Theory (TMT) proposes that, due to the unique ability of humans to understand that life is finite, we have developed buffers against the anxiety of such a potentially devastating awareness. These buffers include an adherence to a meaningful cultural worldview and a secure sense of self–esteem. To date, TMT research has focused almost exclusively on personal mortality salience (MS); however, the present study aimed to understand the implications of threats made to the source of one's anxiety buffer by creating a collective MS threat. Furthermore, the current study attempted to assess the impact of MS on personal beliefs about one's own and others' commitment to Canada, as well as domestic and foreign policies in situations where their Canadian identity was either primed or not. Civilian participants (N = 123) completed measures of implicit and explicit personal and collective self–esteem, were exposed to one of three MS conditions (control, personal MS, or collective MS) and one of two prime conditions (Canadian flag present or absent). While the Canadian identity prime had no impact on commitment to Canada or attitudes towards Canadian security, personal MS interacted with both implicit and explicit personal self–esteem in its impact on personal commitment towards Canada and beliefs about the others' obligations towards Canada. The effects of the collective MS condition combined with implicit and explicit collective self–esteem also influenced personal commitment and beliefs about others' obligations, as well as support for extreme domestic policies. The implications of these findings for extreme beliefs in support of a threatened cultural worldview are discussed.

(U) Selon la théorie de la gestion de la terreur, c'est parce que les êtres humains sont les seuls à posséder la capacité de comprendre la finitude de la vie qu'ils ont développé des instruments de protection contre l'anxiété, parfois dévastatrice, que suscite une telle conscience. Ces instruments de protection sont entre autres l'adhésion à une vision du monde culturellement significative et un sentiment de sécurité basé sur l'estime de soi. À ce jour, la recherche inspirée de cette théorie a été concentrée presque exclusivement sur la prégnance de la mort personnelle (PM); toutefois, l'étude dont il est question dans le présent document visait à comprendre les conséquences des menaces qui pèsent sur l'origine des instruments de protection personnelle contre l'anxiété en créant une menace à la prégnance de la mort collective. Cette étude tentait également d'évaluer l'incidence de la prégnance de la mort sur les convictions personnelles concernant son propre engagement et celui des autres envers le Canada et les politiques nationales et étrangères dans les situations où l'identité canadienne est mise ou non à l'avant–plan. Les 123 civils participants dont on avait préalablement évalué le degré d'estime de soi personnelle et collective, tant implicite qu'explicite, ont été exposés à l'un des trois états de PM (le contrôle, la PM personnelle ou la PM collective) et à l'une des deux situations suivantes : la présence ou l'absence du drapeau canadien. Le rappel de l'identité canadienne n'avait aucune incidence sur l'engagement envers le Canada ou sur les attitudes à l'égard de la sécurité canadienne, mais la PM personnelle interagissait avec l'estime de soi personnelle, tant implicite qu'explicite, pour influencer l'engagement personnel envers le Canada et les opinions au sujet des obligations des autres envers le Canada. Les effets d'un état de PM collective, conjugués avec l'estime de soi collective, tant

implicite qu'explicite, avaient aussi des répercussions sur l'engagement personnel et sur les opinions concernant les obligations des autres, de même que sur la disposition à appuyer des politiques nationales extrêmes. Les implications de ces constatations, pour ce qui est des croyances extrêmes à l'appui d'une vision culturelle du monde menacée, font l'objet d'une analyse.

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(U) Terror Management Theory; mortality salience; nationalism; attitudes towards Canadian policies; implicit self−esteem; explicit self−esteem; collective

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